Zealand the planet Jupiter will be similarly situated. Thus at the middle of the eclipse at Castle Point, on the south-east coast of the North Island, the distance of Jupiter from the moon's limb will be 45′, and the angle of position from her centre about 26°.

There appears to be every probability that an expedition from the Australian observatories will take part in the observation of the eclipse on the shores of Cook's Straits, or in the vicinity of Castle Point.

ASTRONOMICAL PHENOMENA FOR THE WEEK, 1885, *APRIL* 26 *TO MAY* 2

(For the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on April 26

Sun rises, 4h. 44m.; souths, 11h. 57m. 39·4s.; sets, 19h. 13m.; decl. on meridian, 13° 39′ N.: Sidereal Time at Sunset, 9h. 33m.

Moon (Full on April 29) rises, 16h. 16m.; souths, 22h. 14m.; sets, 4h. 1m.*; decl. on meridian, 3° 15′ S.

Planet	Rises	Souths	Sets	Decl. on meridian
	h. m.	h. m.	h. m.	° ′
Mercury ...	4 39 ...	12 6 ...	19 33 ...	15 45 N.
Venus ...	4 45 ...	11 51 ...	18 57 ...	12 0 N.
Mars ...	4 18 ...	10 59 ...	17 40 ...	7 26 N.
Jupiter ...	12 17 ...	19 34 ...	2 51* ...	14 1 N.
Saturn ...	6 56 ...	15 3 ...	23 10 ...	22 7 N.

* Indicates that the setting is that of the following day.

Occultations of Stars by the Moon

April	Star	Mag.	Disap.	Reap.	Corresponding angles from vertex to right for inverted image	
			h. m.	h. m.	°	°
26 ...	B.A.C. 4255 ...	6½ ...	20 28 ...	21 39 ...	66	219
30 ...	*o*′ Libræ ...	... 6 ...	3 46 ..	4 55 ...	92	310
May						
2 ...	29 Ophiuchi ...	6 ...	3 14 ...	4 22 ...	62	321

Phenomena of Jupiter's Satellites

April	h. m.		May	h. m.	
26 ...	20 59	II. ecl. reap.	1 ...	23 5	II. tr. ing.
27 ...	20 35	IV. ecl. reap.	2 ...	2 1	II. tr. egr.
28 ...	0 11	I. occ. disap.		20 3	III. tr. ing.
	21 31	I. tr. ing.		23 43	III. tr. egr.
	23 51	I. tr. egr.			
29 ...	22 8	I. ecl. reap.			

The Occultations of Stars and Phenomena of Jupiter's Satellites are such as are visible at Greenwich.

April	h.	
28 ...	3 ...	Mercury in inferior conjunction with the Sun.
28 ...	19 ...	Mercury in conjunction with and 1° 42′ north of Venus.

GEOGRAPHICAL NOTES

The Arctic steamer *Alert*, which is about to be returned by the Government of the United States to that of Great Britain, has been lent by the latter to Canada for the continuance of the Hudson's Bay Survey, for which purpose thirty thousand dollars will be asked from the Dominion Parliament.

At the last meeting of the Geo graphical Society of Munich Dr. Clauss described his journey in South America, exploring the water-shed between the Paraguay and the Amazon. His companions were the brothers Von den Steinen. Thay ascended the Paraguay by steamer, and after eighteen days' journey reached Cuyaba, the capital of the Brazilian province of Matto Grosso, and the terminus of the steamship line on the river. Here they got a military escort and provisions. After remaining eight weeks in Cuyaba they started, with three months' provisions and an escort of fifteen men, to cross the water shed to the Amazon. This elevation, which is only 300 to 400 metres in height, presents the appearance of a savannah, broken up by forests, which follow the watercourses. The formation is sandstone, covered with a reddish clay, containing lumps of iron-ore. The nights on this plateau were very cold. The watersheds between the various tributaries of the Amazon here were unknown. Brazilian geographers direct the whole upper course of the Xingu to the Tapajos, and put the source of the former under 11° south latitude. After the expedition had crossed the last tributary of the Tapajos, they reached, after eight days' journey, to the east, a large river. Here the oxen which remained healthy were killed, canoes were made from the bark of the Yatoba tree, and, after they had learnt that no larger river existed farther east, they began their voyage on the river, which, in honour of the governor of the province, was called Rio Batovy. The course is interrupted by numerous falls and rapids. In passing these obstacles the boats frequently capsized, and many valuable portions of the collections were lost. After a long and difficult voyage the party reached some Bacairi villages, the inhabitants of which were found wholly ignorant of metals. Through the Rio Batovy they reached a large river, undoubtedly the Xingu. Here they had a collision, which ended satisfactorily, with the Trumai Indians; subsequently they came in friendly contact with the Suya, from whom they received much important information about the hydrography of the region. At 9° south latitude waterfalls were again reached, which rendered navigation difficult, although the river was here a kilometre in width. When their provisions were almost wholly exhausted they reached the settlements of the Yuruna Indians, who understood Portuguese, and received further supplies from them. From 8° to 3° S. the Xingu falls 200 metres in a series of cataracts. Under the guidance of the Yurunas these rapids were passed, and on October 15 the first Portuguese settlement was reached, and the travellers took steamer on the Amazon to Para, which they reached after five months spent in the most unknown regions of Brazil.

The Vienna correspondent of the *Times* states that an extraordinary meeting of the Geographical Society of Vienna will shortly be held to welcome the Austrian African explorers, Dr. Paulitschke and Dr. von Hardegger. The Crown Prince of Austria will be present. The travellers started from Trieste on December 30, 1884, and chiefly explored the interior of the Gallas country. At Harrar, the largest town of East Africa, they were amicably received by the Egyptian governor, Abdallah, son of the Emir Mahomed Abdel Shakur, murdered in 1875. The Governor was just engaged in forming an army. On their return, on March 25, they found Zeila half in ruins. The Austrian explorers have established meteorological stations at Harrar and Zeila, which will be looked after by the English Consuls, Pitten and King. The collections they have brought with them, filling several cases, will constitute a very valuable addition to the Austrian Imperial Museum. The travellers will, in a few days, report personally to the Crown Prince, and submit a comprehensive statement of the commercial conditions of East Africa to the Minister of Commerce.

A Parliamentary paper (Corea, No. 2, 1885) issued during the past week contains a report by Mr. Carles, of the British Consulate at Seoul, of a journey made by him at the close of last year through Northern Corea. The journey lasted about six weeks, and appears to have extended over about 3000 *li*. Starting from Seoul, Mr. Carles went along the western coast road through Kaisong, Hwang-ju, Phyong Yang and An-ju to Wy-ju, where the river forming the boundary between China and Corea was reached. Having ascended the valley of this river several days' journey, he turned towards the east coast through Kang-ge and Ham-heung, to the treaty port of Gensan on the Sea of Japan, from whence it is about a week's journey back to the capital. Among the points noticeable in this excellent report, extending to thirty-two octavo pages, we observe that in Corea, as in a lesser degree in Japan, there is a great disproportion between the number of males and females, the former being more numerous. In the large towns this is ascribed to the immense staffs attached to the officials, but in the villages there is no corresponding balance in favour of females, and it is probable that an explanation which accounts for the disproportion by a greater number of deaths among girls in infancy is correct, for there was no evidence of female infanticide. Corea has been said to be a land of large hats, but this does not tell everything, One would hardly expect the following dimensions from this statement alone. At Phyong Yang, a large and historical town near the west coast, Mr. Carles records that the hats worn by the poor women are baskets 3½ feet long, 2½ feet wide, and 2½ feet deep, which conceal their faces as effectually as the white cloak worn by women of a better class over their heads. The men wear a basket of the same shape, but somewhat smaller. It, however, requires the use of both hands to keep it in place. A structure of a size but little larger, which is used to cover fishing-boats, suggests to the traveller that the women's hats

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should be converted into coracles. Literature is honoured in Corea as in other Eastern countries, but the monument erected over the graves of the doctors of letters are at least unique. It consists of the trunk of a tree painted like a barber's pole, some 30 feet up. The top and branches are cut off, and on the summit rests a carved figure of slim proportions, 20 feet long, and with a forked tail in imitation of a Corean dragon. From the head, which resembles that of an alligator, depends cords on which brass bells and a wooden fish are strung. The total absence in even the most ancient and historical provincial towns of any remains of art and culture, leads Mr. Carles to think that perhaps the Corea of olden days differed but little from that of the present time, and that her early civilisation has been greatly overrated. Frequent evidences of mineral wealth were observed. The contradictory reports on this subject are very perplexing. Not long since we published a statement from a traveller in Corea that there were few or no traces of mineral deposits, while the general impression has been that the country was very wealthy in gold, iron, and coal. Nothing but a special survey will set the question at rest. No map or sketch accompanies this report. Unfortunately maps of Corea are rare. An excellent one was published not long since in *Petermann's Mittheilungen*. It is compiled, with Mr. Satow's assistance, and under his supervision, from the maps of the Japanese general staff. A slight sketch-map of Corea would have rendered Mr. Carles's interesting report much more intelligible than it is at present.

THE last *Bulletin* of the American Geographical Society contains an account of the reception of Lieut. Greeley by the members of the Society, and a paper by Lieut. Schwatka describing his exploration on the Yukon River in 1883. A marvellous account is given of the ravages of the mosquito pest in Alaska during the warm months. Shooting on one occasion was out of the question, not altogether on account of the venomous attacks of these insects, but because they were so thick and dense that no one could have seen clearly through the mass in taking aim. Native dogs are killed by them under certain circumstances, and Lieut. Schwatka heard reports from persons so reliable that, coupled with his own experience, he never doubted them, that the great grizzly bear of these regions is at times compelled to succumb. "The statement seems preposterous, but the explanation is simple: the bear, in trespassing on a swampy habitation of mosquitoes, instead of seeking safety in flight, rears upon his hind-quarters and fights them bear-fashion until his eyes are closed by their repeated attacks on them, when starvation is the real cause of death."

THE German Foreign Office has made a communication to the Berlin Geographical Society on the changes in the political geography of South America (which were, the statement says, not inconsiderable) produced by the late war between Bolivia, Peru, and Chili. (1) By the treaty of Ancon of October 20, 1883, Peru ceded to Chili, "permanently and unconditionally," the coast province of Tarapaca, the boundaries of which were declared to be "in the north the defile and River Camarones, in the south the defile and River Loa." This new Chilian province is, by a law of October 10, 1884, divided into two departments, Pisagua and Tarapaca. The latter, chief town Iquique, has for boundaries "towards the territory of Antofagasta the River Loa to Quillagua, and a line from the latter across the volcanoes Miño and Olca to the volcano Tua." The boundary between the two departments is formed by the Quebrada des Aroma to Curana, and from there to a point on the coast two kilometres from Caleta Buena. This change in the dominion of the respective States is regarded as final. But the two following appear to be regarded as provisional only. (2) Bolivia agreed, in the armistice convention concluded at Valparaiso on April 4, 1884, and ratified on November 20 last, that Chili shall hold provisionally (that is, during the armistice, the length of which is not defined) the coast of Bolivia from the 23rd degree south latitude to the mouth of the Loa River, and eastward to the boundary line "from Sapalega to the volcano Licancaur, from there to the volcano Cavana, thence to the southern water-course of Lake Ascotan, Mount Allagu, and the borders of Tarapaca." This portion of Bolivia corresponds to the Bolivian province of Atacama, and had not been organised by Chili at the commencement of the present year. (3) Peru, by Article 3 of the Treaty of Ancon, has ceded to Chili until March 28, 1894, the provinces of Tacna and Arica. This territory "is ounded on the north by the Sama River from its source in the chain of mountains on the frontiers of Bolivia, to its mouth, and on the south by the defile and River Camarones." By a Chilian law of October 31, 1884, these form a single province with the departments Tacna and Arica.

BEFORE the Royal Colonial Institute, on April 14, Mr. Justice Pinsent, of Newfoundland, read a most interesting paper on this oldest of British colonies. From a geographical point of view, the earlier and more antiquarian portion of the paper is the most interesting. The writer describes the discoveries of Sebastian Cabot and the early history of Newfoundland, a name which was originally given to the continent and islands *en masse*, and which, when divers parts were given different names, came to be applied only to that island which still bears the name, and which long lent to those discoveries their chief importance.

AT the meeting of the Paris Geographical Society, on the 10th inst., M. Venukoff communicated a letter which he received from the Russian General Stebintsky, reporting that Capt. Guedenoff had completed a journey in the Trans-Caspian regions with the object of determining the positions of various points in the basin of the Amu-Darya. He commenced at Kizil-Arvat, whence he went to Igdy, and then towards Petro-Alexandrovsk by Khiva. He ascended the Oxus to Charjni, and then returned through Southern Turkomania by Merv and Askabad. He travelled 1200 kilometres, and determined forty-eight points.—A letter was read which General Faidherbe had addressed to the Italian Geographical Society on the subject of doubts expressed in its *Bulletin* on the authenticity of the story of a journey by M. Buonfanti to the Soudan and Timbuctoo. The General reports a conversation which he held on the subject with the "envoy" of Timbuctoo recently in Paris. The envoy had not seen this traveller in Timbuctoo, but recollected hearing of his having been there.—M. de Rivoyre described the Bay of Adulis in the Red Sea, which now belongs to France. The possession of this place and of Obock, he said, gave France a position from which she could watch calmly the events now proceeding in Ethiopia.—M. Germain Bapst described his explorations in Armenia, on the frontiers of the three empires of Turkey, Russia, and Persia, and gave some interesting information on the semi-barbarous populations living in these regions.

THE last number (Bd. xix. Heft 6) of the *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* contains a translation of the Report on the Russian National Survey for 1883, and the usual tabulated catalogue of books, articles, maps, and plans, published between November, 1883, and 1884, in the domain of geography.

THE SCOTTISH METEOROLOGICAL SOCIETY

AT the annual meeting on March 23, Dr. Arthur Mitchell, F.R.S.E., in the chair, it was stated in the Report of the Council that since last meeting in July two new stations had been established—one at Lednathie, Kirriemuir, and the other at Comrie, Perthshire. During the summer and autumn the Secretary inspected twenty-six stations. In addition to the ordinary work of the office he had prepared a third paper on the climate of the British Islands, embracing the rainfall, which would appear in next issue of the *Journal*. As regards the Ben Nevis Observatory, the observations during the winter had been carried on by Mr. Omond and his assistants every hour by night and by day, without the break of a single hour, except during a great storm which raged around the Observatory in February, when from 6 p.m. of the 21st to 7 a.m. of the following day such was the violence of the wind, that for those fourteen hours no light could be carried outside by which the thermometers could be read. The directors had given permission for the erection of a seismometer for registering earth-movements at the Observatory, a grant of 200*l.* for its erection having been obtained by Mr. George Darwin and Prof. Ewing from the Government Grant Committee. The total cost of the erection and maintenance of the Observatory up to January 31, 1885, was 5935*l.*, which was 325 in excess of the subscriptions and other moneys received. The actual cost above what was originally estimated amounted to upwards of 1600*l.* This excess arose chiefly from the additions it was found necessary to make to the buildings, the extra furnishings required for the new portion, the great cost of making and maintaining the road, and of the transport to the top of building materials and stores. It was hoped that the public, to whose liberality this great national observatory owed its existence, would by additional subscriptions

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